

intervals that are distributed over the range of 0.4 to 0.6 seconds as specified in subparagraph 2.2.3.3.2.3.b. Also verify that at least 61 seconds after establishing the new data that the ADS-B Surface Position Message is broadcast at intervals that are distributed over the range 4.8 to 5.2 seconds as specified in subparagraph 2.2.3.3.2.3.c.

2.4.3.3.2.4 Verification of ADS-B Aircraft Identification and Type Message Broadcast Rate (subparagraph 2.2.3.3.2.4)

Equipment Required:

Provide a method of loading valid data for ADS-B broadcast messages into the ADS-B equipment under test.

Provide a method of detecting the RF pulses of the ADS-B Broadcast Message for display on an oscilloscope.

Measurement Procedure:

Step 1: Airborne with No TCP, TCP+1, and Aircraft Operational Status (subparagraph 2.2.3.3.2.4.a)

Ensure that the equipment is set to the “Airborne” condition and that the appropriate valid ADS-B Aircraft Identification and Type data is available. Verify that the ADS-B Aircraft Identification and Type message is broadcast at intervals that are distributed over the range of 4.8 to 5.2 seconds as specified in subparagraph 2.2.3.3.2.4.a.

Step 2: Airborne with TCP, TCP+1, and Aircraft Operational Status (subparagraph 2.2.3.3.2.4.b)

Ensure that the equipment is set to the “Airborne” condition and that the appropriate valid ADS-B Aircraft Identification and Type data is available.

Provide the equipment with valid Trajectory Intent Data necessary to establish TCP Trajectory Intent Broadcast Messages (see subparagraphs 2.2.3.2.7.1 and 2.2.3.3.2.6.1).

Provide the equipment with valid Trajectory Intent Data necessary to establish TCP+1 Trajectory Intent Broadcast Messages (see subparagraphs 2.2.3.2.7.1 and 2.2.3.3.2.6.1).

Provide the equipment with valid Operational Status Data necessary to establish Aircraft Operational Status Messages (see subparagraphs 2.2.3.2.7.3 and 2.2.3.3.2.6.3).

Verify that TCP, TCP+1, and Aircraft Operational Status Messages are being broadcast.

Note: *It is not necessary to verify the rate of broadcast for the Intent Messages at this time since direct verification of the broadcast rates for these messages is verified in procedures later in this document.*

Verify that the ADS-B Aircraft Identification and Type Message is broadcast at an average rate of one message per 2.5 seconds over a time period of 60 seconds.

Step 32: On the Ground (subparagraph 2.2.3.3.2.4.cb)

Ensure that the equipment is set to the “On the Ground” condition and that the appropriate valid ADS-B Aircraft Identification and Type data is available. Verify that the ADS-B Aircraft Identification and Type message is broadcast at intervals that are distributed over the range of 9.8 to 10.2 seconds as specified in subparagraph 2.2.3.3.2.4.cb.

Step 43: Data Ceases to be Updated (subparagraph 2.2.3.3.2.11)

Establish the broadcast of the ADS-B Aircraft Identification and Type message as in Step 1 above. Then stop the input of data for the ADS-B Aircraft Identification and Type message.

Verify that the ADS-B Aircraft Identification and Type message continues to be broadcast with the same data that existed prior to stopping the data input for up to 60 +/- 1 second after stopping the data input.

Verify that the ADS-B Aircraft Identification and Type message is no longer broadcast 60 +/- 1 seconds after stopping the data input.

2.4.3.3.2.5 Verification of ADS-B Velocity Information Message Broadcast Rate (subparagraph 2.2.3.3.2.5)

Equipment Required:

Provide a method of loading valid data for ADS-B broadcast messages into the ADS-B equipment under test.

Provide a method of detecting the RF pulses of the ADS-B Broadcast Message for display on an oscilloscope.

Measurement Procedure:

Step 1: Data Available (Subparagraph 2.2.3.3.2.5)

Ensure that the appropriate valid ADS-B Velocity Information data is available. Verify that the ADS-B Velocity Information message is broadcast at intervals that are distributed over the range of 0.4 to 0.6 seconds as specified in subparagraph 2.2.3.3.2.5.a.